

Weather Note

PHOTO PIREPS

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Collection and transmission of pilot report summaries on schedule was a definite stride ahead and now another pace is being stepped off in the reporting of weather by pilots.

San Juan Weather Bureau Airport Station is unique in many ways but the main items we at this station are proud of are our (1) very complete surface charts, and (2) our pilot briefings and debriefings. Pilots, admittedly, enjoy a visit in person to the San Juan office because it is one station where they can "get their hands on" a weather chart.

In a briefing area that covers much of the Atlantic, from New York to Panama, from Bogota and Trinidad to London, Madrid, Rome, and west Africa, every effort is made to glean information from the men who see the weather first hand—the pilots and crews. However, many important points are missed in the time available to the forecaster for debriefing, and often words become inadequate in communicating the weather picture to the meteorologists. As many times as this word "picture" had been used, the thought of using photographs to convey the message did not occur as a solution.

To the knowledge of the writer, Eastern Air Lines meteorologists were the only ones doing anything in this vein. It should be remembered that the Weather Bureau Research Flight Facility planes take time lapse movies, but these are not immediately available to briefers or forecasters.

As is often the case, the idea for this advance in debriefing came from a man outside the field of aviation forecasting. Mr. Lester Hubert of the National Weather Satellite Center at Suitland, Md., while making a trip to San Juan on a lecture tour to train forecasters in "reading" satellite pictures, talked at some length with Captain Ray Raaum of Pan American World Airways on this subject. While enroute, Mr. Hubert took a few cloud pictures from the cockpit, with only slight success.

Three days later, Captain Raaum, flying Pan American flight 211, the flight assigned to take weather observations enroute from New York to San Juan, used a polaroid Land camera, to snap a series of cloud photographs to supplement his cross-section of the flight. The cross-section and photos were submitted to the forecasters at

San Juan in the debriefing session. What a revelation! The cross-sections had come alive! Since his first group of pictures, some of the technicalities have been worked

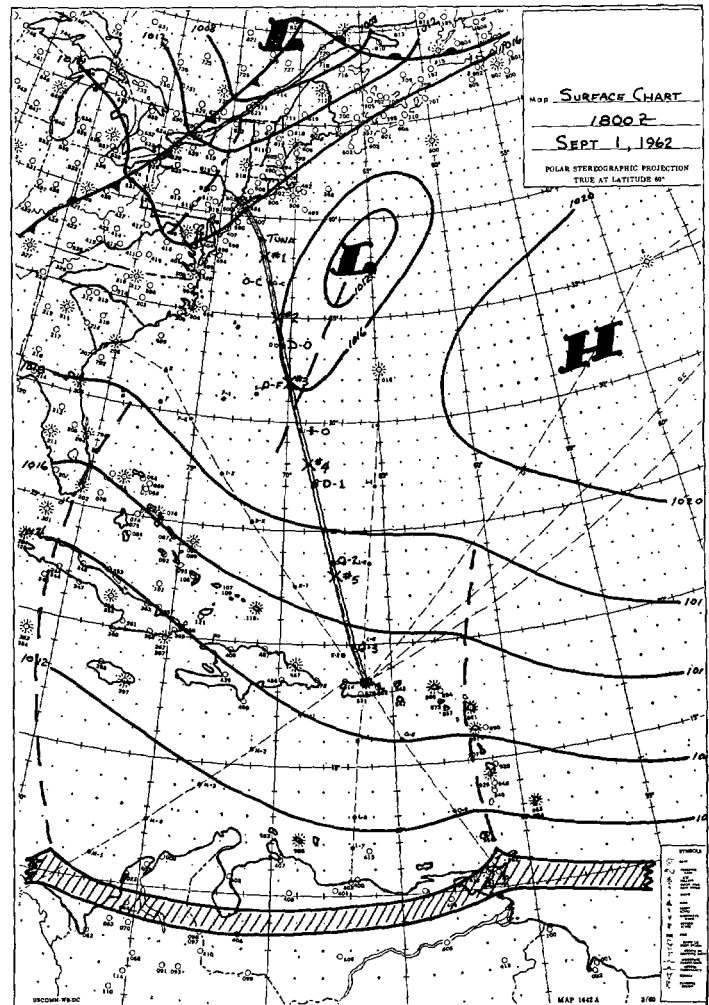
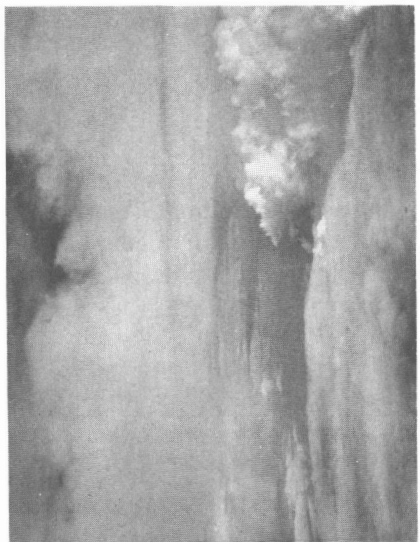


FIGURE 1.—Surface chart for 1800 GMT, September 1, 1962 with flight route marked. The pilot's regular check points are shown by solid circles on the path. The points where pictures were taken are marked by X's and numbered to correspond to the numbered pictures in figure 2.



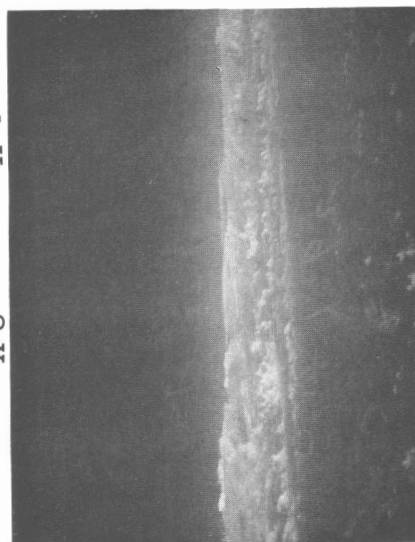
2 Buildups reaching almost to flight level of 23,000 ft. in vicinity of Low to left of track.



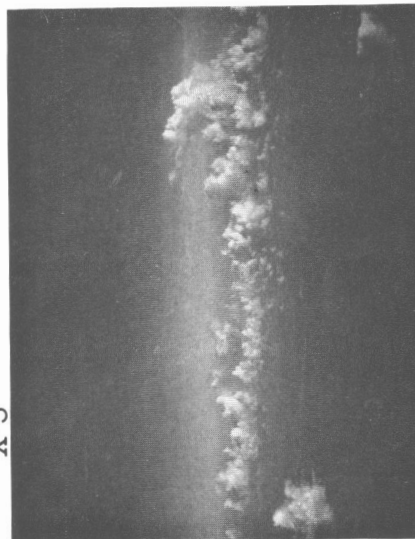
4 Avoidable cumulonimbus at 28°N. Tops well above 23,000-ft. flight level.



1 Fair weather cumulus and scattered cirrus. Looking SSE along Oscar route at 38°N.



3 Vicinity of trough at O - F. Line of buildups generally east of track, lower tops west.



5 At 23°N. isolated lowering cumulus at 23,000 ft. Haze on horizon in vicinity of Puerto Rico.

FIGURE 2.—Pilot's cross-section of flight on September 1, 1962 with type of clouds encountered. X's mark points where pictures were taken. Time is given in GMT beside X.

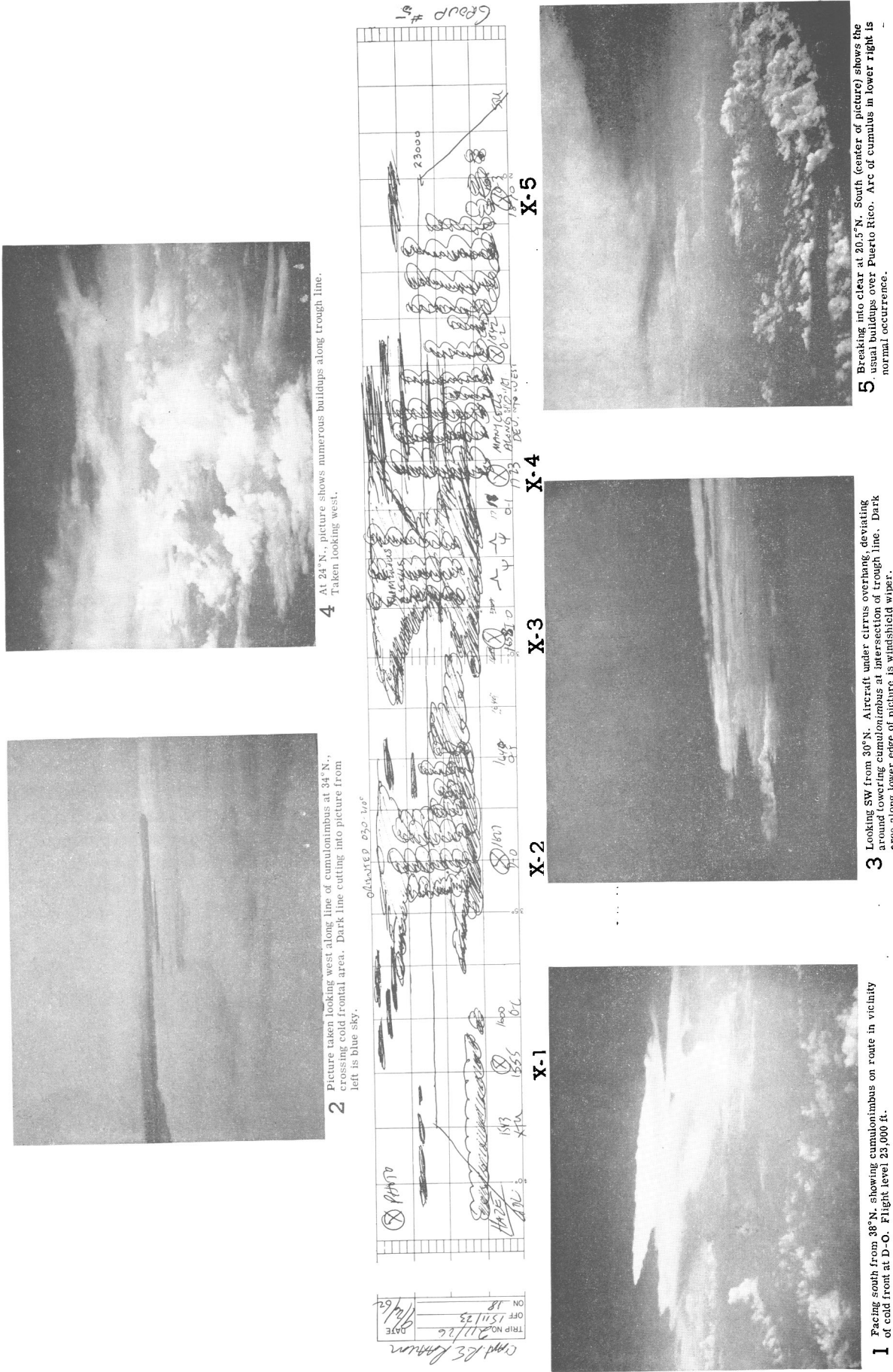


FIGURE 3.—Pilot's cross-section of flight path on September 26, 1962.

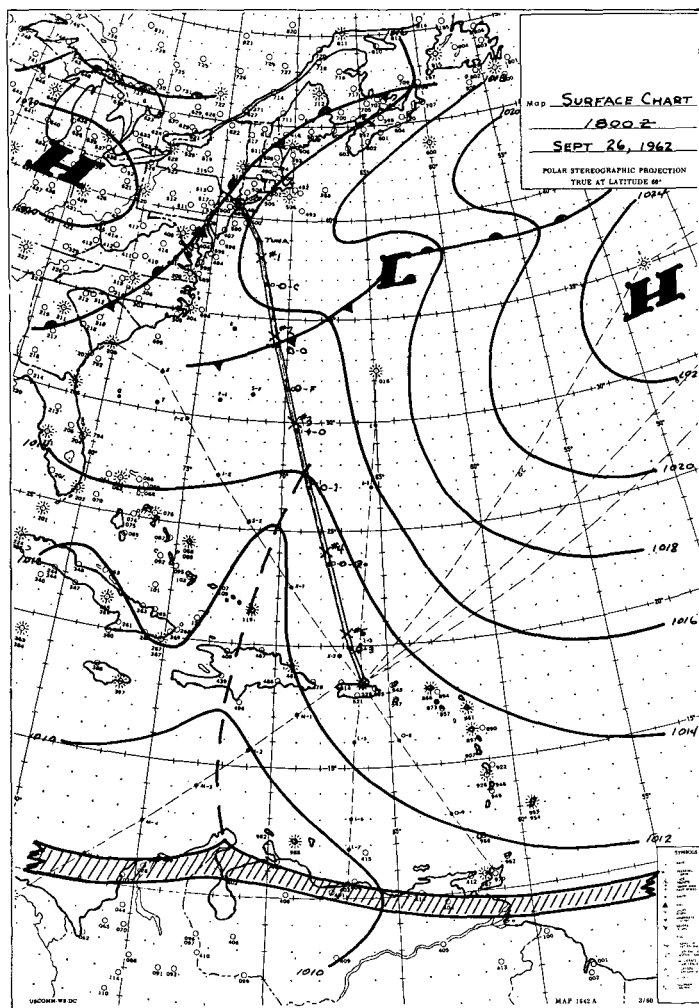


FIGURE 4.—Surface map for 1800 GMT, September 26, 1962, nearest in time to flight shown in figure 3.

out.⁵ Now a set of five or six photos taken along the route shows forecasters and pilots the actual cloud forma-

⁵ Technical data: Film used is PolaPan 200/Type 42, 10-second development time, in a Polaroid Land camera fitted with an orange red 5X filter.

tions acting as "sky posts" marking the route to New York. In essence, this gives the forecaster and briefer a check ride by proxy.

Figure 1 shows the synoptic situation on September 1, 1962; figure 2 shows the cross-section drawn by Captain Raaum on this day and the pictures taken enroute as marked on the cross-section and synoptic chart. Figures 3 and 4 show similar information for September 26, 1962. One more proof that a picture is worth 10,000 words.

This procedure, if adopted on other weather designated flights, both domestic and international routes, would be a valuable aid to meteorologists everywhere, as well as provide useful data for research.

Correspondence

COMMENTS ON "PHOTO PIREPS"

L. F. HUBERT

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October 30, 1962

The note by Mr. Hill, "Photo Pireps", demonstrates some very good liaison work between the aviation forecasters at San Juan and pilots they serve, as well as some unusual interest on the part of a Pan American pilot, Mr. Ray Raaum.

While it is highly gratifying to have one's missionary work acknowledged like this, I fear I have been given too much credit. I spoke at some length to Captain Raaum of Pan Am, both on my trip to San Juan and later on another flight from San Juan to New York, and I hope my conversation stimulated his interest. However, the basic idea of such "pireps" and the initiative were Captain Raaum's and I am happy and anxious to acknowledge this because it illustrates the tremendous value of extra effort on the pilot's part. I certainly hope Captain Raaum and other air crews can be encouraged to produce such outstanding data.